

**Appl. No.** : 09/868,737  
**Filed** : October 15, 2001

**AMENDMENTS TO DRAWING FIGURES**

As stated below, Applicants have requested to amend Figs. 1, 3, and 4 to correct clerical errors, as shown in the attached copy of the figures wherein the corrections are indicated with red ink. That is, the term "fullerences" has been corrected to "fullerenes" in the figures.

**REQUEST FOR APPROVAL OF DRAWING CHANGES**

The amendment requested herein is to correct clerical errors of Figs. 1, 3, and 4 as shown with red ink in the attached copy of the figures. That is, the term "fullerenes" was misspelled as "fullerences" in the figures. No new matter has been added. Approval of this amendment is respectfully requested.



WATER CONTAINING FULLERENES AND METHOD FOR  
PRODUCING THE SAME

HIRATA, et al.

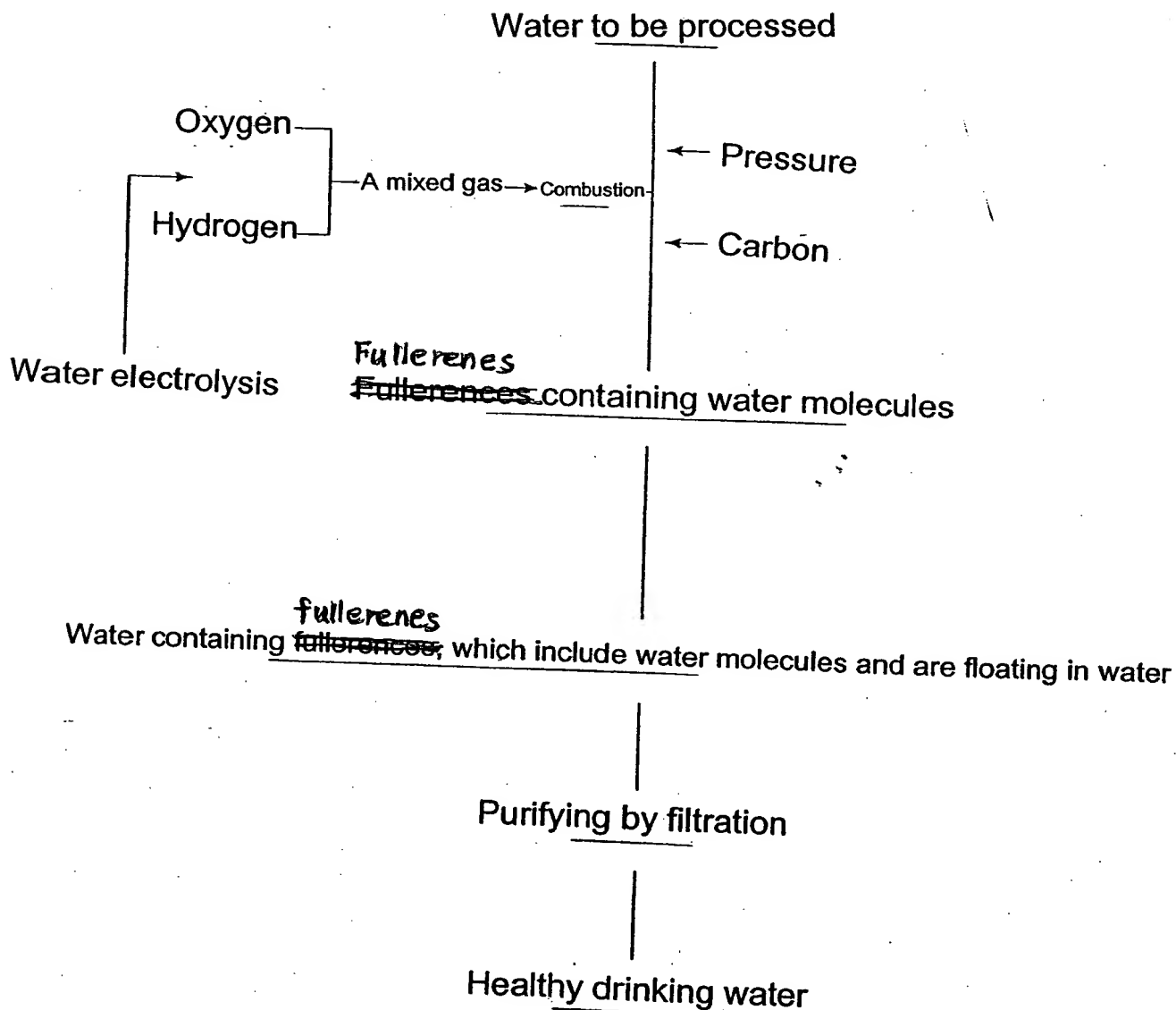
Appl. No.: 09/868,737

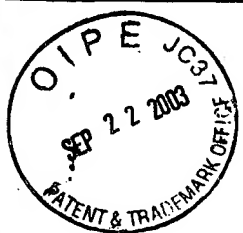
Atty Docket: KOD9B.001APC

RECEIVED  
SEP 29 2003  
GROUP 1700

FIG. 1

A flow chart of producing water containing ~~fullerenes~~ <sup>fullerenes</sup>



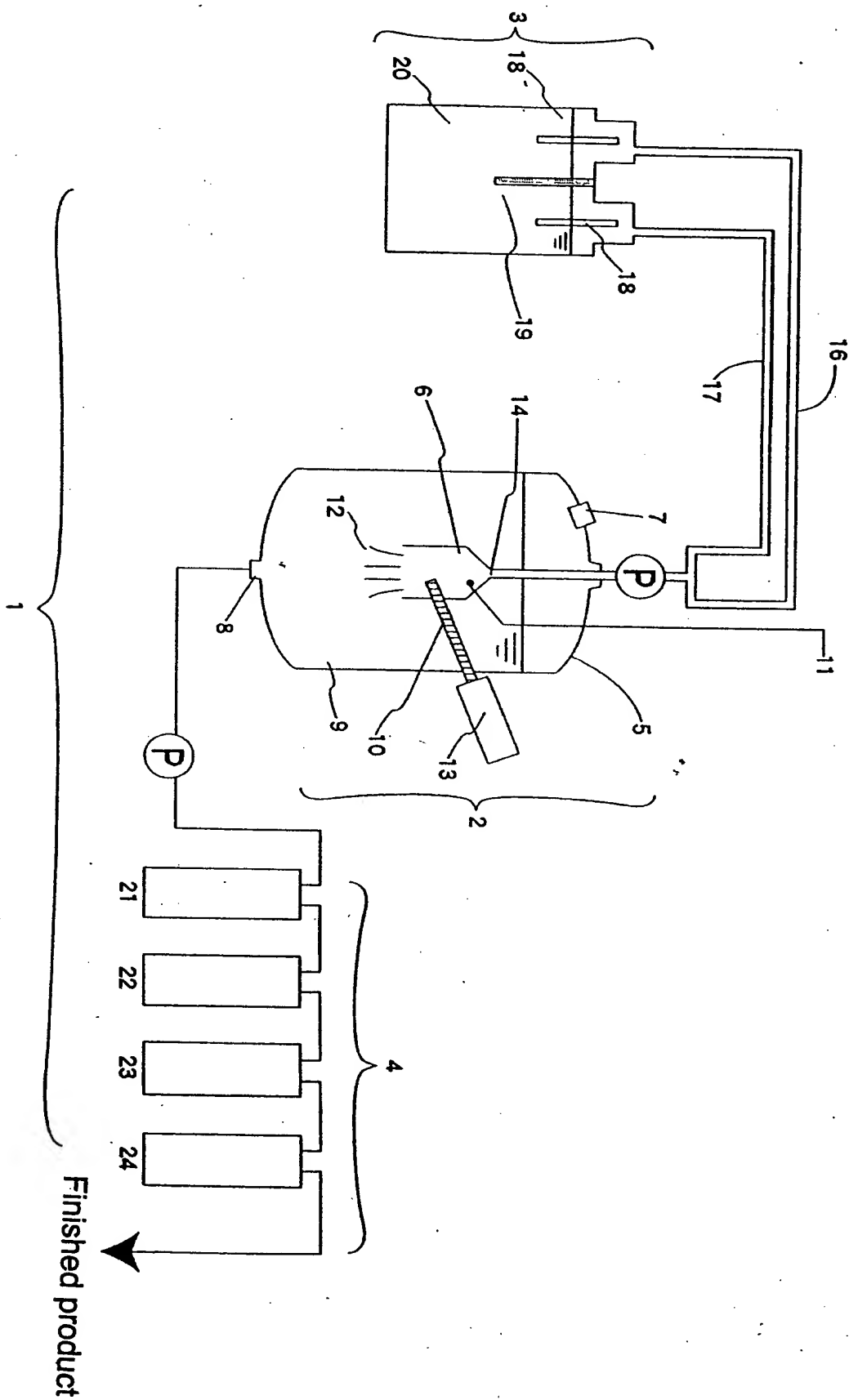


WATER CONTAINING FULLERENES AND METHOD FOR  
PRODUCING THE SAME

HIRATA, et al.

Appl. No.: 09/868,737 Atty Docket: KOD9B.001APC

FIG. 2





WATER CONTAINING FULLERENES AND METHOD FOR  
PRODUCING THE SAME

HIRATA, et al.

Appl. No.: 09/868,737 Atty Docket: KOD9B.001APC

FIG. 3

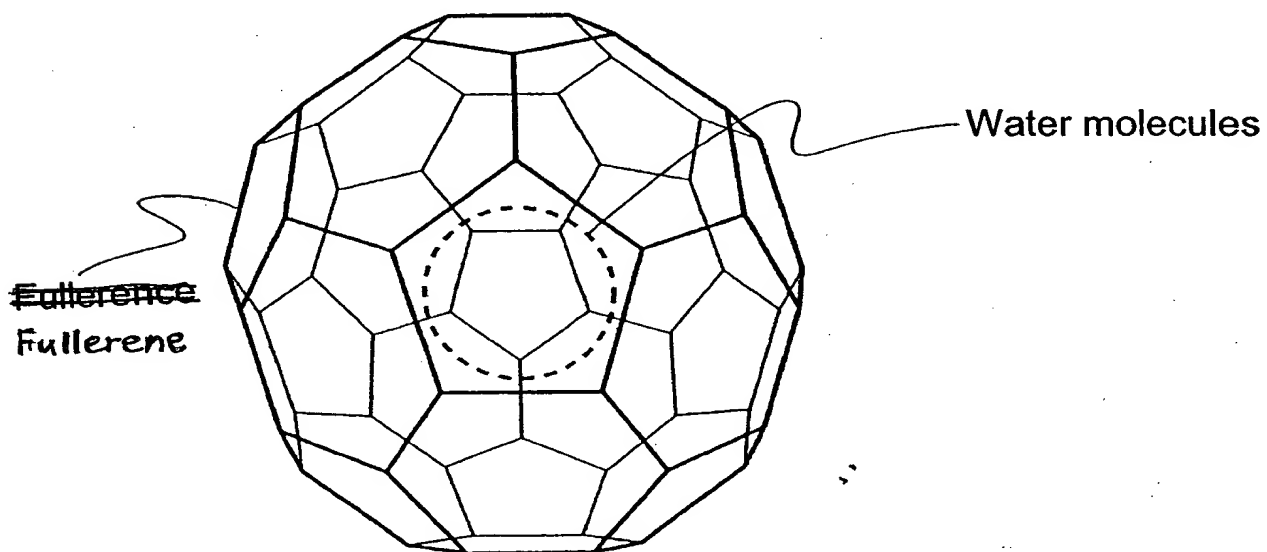


FIG. 4

Various Properties of  $C_{60}$  (prepared based on a table from Chemistry, 46, 830, 1990)

Properties (Physical Quantity)	Measured Value, etc.	Properties (Physical Quantity)	Measured Value, etc.
·Molecular weight:	720.66	·Electron affinity:	2.65±0.02 eV
·No. of molecules:	720	·Reduction potential ( $E^{1/2}$ vs $Fc/Fc^+$ , acetonitrile/toluene, $(E_4N)$ )	-0.98, -1.37, -1.87, -2.35, -2.85, -3.26 (V)
·Molecular structure:	Frustum icosahedron ( $1_n$ ), Diameter: ~7.1 Å C-C bond shared by two six-membered rings 1.391 Å C-C bond forming a five-membered ring 1.455 Å $\delta = 143.27$ ppm	·Crystal structure:	Simple cubic system (249K or less) Pd3, Z=4, a=14.041 Å (5K) Face-centered cubic system (249K or more) Fm 3, Z=4, a=14.17±0.01 Å (300K) Distance between the center of adjacent molecules: ~10.0 Å
· $^{13}C$ -NMR spectrum ( $C_4D_6$ (KBr pellet)/cm $^{-1}$ )	527.4, 576.4, 1182.4, 1428.5	·Density:	1.729 g/cm $^3$ (5K, calculated value) 1.682 g/cm $^3$ (300K, calculated value)
·Infrared adsorption spectrum	527.1, 570.3, 1169.1, 1406.9	·Compressibility (0~20GPa):	(5.5±0.5)×10 $^{-2}$ GPa $^{-1}$
·Infrared emission spectrum (vapor-phase, 850±100°C)/cm $^{-1}$	273(s), 437(m), 496(s), 710(m), 774(m), 1099(w), 1250(w), 1428(m), 1470(vs), 1575(m)	·Melting point:	>700°C
·Raman spectrum (thin film)/cm $^{-1}$	273(s), 437(m), 496(s), 710(m), 774(m), 1099(w), 1250(w), 1428(m), 1470(vs), 1575(m)	·Heat of transition (249K):	~4.83 kJ/mol
·Visible ultraviolet spectrum (hexane solution, log $\epsilon$ in parentheses)/nm:	211(5.11), 227(sh, 4.91), 256(5.24), 328(4.71), 390(3.52), 403(3.48), 492(sh, 2.72), 540(2.85), 568(2.78), 590(2.86), 598(2.87), 620(2.60)	·Heat of sublimation:	9.58±0.31 kJ/mol
·Fluorescence spectrum (toluene solution, at room temp.)/nm	No observation	·Conductivity (at room temp.):	<10 $^{-9}$ Scm $^{-1}$
·Triplet energy (toluene solution)	1.56±0.03 eV (8.60±0.14 kJ/mol)	·Molar magnetic susceptibility —(260±20)×10 $^{-6}$ emu/mol	$K_3C_{60}$ (18), $Rb_3C_{60}$ (28,30), $Rb_2CsC_{60}$ (31), $RbCs_2C_{60}$ (33), $K_2CsC_{60}$ (24), $Na_2CsC_{60}$ (12), $Na_2RbC_{60}$ (s.5), $Na_2KC_{60}$ (2.5), $Li_2CsC_{60}$ (12), $Ca_2C_{60}$ (8.4), $Sn_2C_{60}$ (12)
·Ionization potential	7.61±0.02 eV	·Transition temp. of superconducting salt T $_c$ (K):	
·Curie temperature: Temperature at which a paramagnetic substance changes to a ferromagnetic substance when it is cooling down.		·Curie temp. of ferromagnetic salt:	TDAE $_{0.55}C_{60}$ . 16.1K

\* Curie temperature: Temperature at which a paramagnetic substance changes to a ferromagnetic substance when it is cooling down.

TDAE indicates tetrakis(dimethylamino)ethylene.

(Source: K. Tanigaki & others, ~~Ferrographia~~, Sangyo-tosho, Oct. 27, 1992, P.16)

**Fullerene**



WATER CONTAINING FULLERENES AND METHOD FOR PRODUCING THE SAME

HIRATA, et al.

Appl. No.: 09/868,737 Atty Docket: KOD9B.001APC